

### **REMARKS**

Claims 1-21 are pending in the application, and claims 1, 3, 6, 10-12, 14, 17, and 21 have been amended hereby.

### **THE §112 REJECTIONS**

Reconsideration is respectfully requested of the rejection of claims 3, 6, 10, and 17 under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 3, 6, and 10 have been amended to recite a proper markush expression and claim 17 to clarify that all the listed metallic agents are in the form of a mesh. Accordingly, it is respectfully submitted that amended claims 3, 6, 10, and 17 as amended are clear and definite in their recitation of the present invention and meet all requirements of 35 U.S.C. §112. Applicant submits, therefore, that the rejection under 35 U.S.C. §112 may be withdrawn.

### **THE §102 REJECTIONS**

Reconsideration is respectfully requested of the rejection of claims 11-13 and 21 under 35 U.S.C. 102(b), as allegedly being anticipated by Deibert. The Examiner asserts that Deibert teaches a filtration unit comprising an active stage (a moving belt having at least one agent to kill ambient bacteria and viruses) and a passive stage (for filtering out particles above a predetermined size), an intake port and an exhaust port. The Examiner asserts that Deibert teaches absorbent media and a UV light source as an active stage.

A feature of the filtration unit according to the invention defined in claims 11-13 and 21, as amended, is a first passive stage for filtering out particles above a predetermined size (150 in Fig. 6) sandwiched between an active stage containing at least one agent to kill ambient bacteria and viruses (152 in Fig. 6) and a second passive stage for removing odors and chemical hazard agents (e.g. activated charcoal agent 148 in Fig. 6), the filtration unit being formed as an integral filter. Deibert has no first passive stage for filtering out particles above a predetermined size sandwiched between an active stage containing one agent to kill ambient bacteria and viruses and a second passive stage for removing odors and hazardous chemical agents. The passive stage for filtering out particles in Deibert is the first segment in a series of discrete segments. Further, the filter of Deibert is not formed as an integral filter, but is formed as a series of discrete segments. Accordingly, it is respectfully submitted that amended independent claim 11, and the claims depending therefrom, are not anticipated by Deibert.

The Examiner also has rejected claims 11, 12, and 21 under 35 USC 102(e), as anticipated by Forsyth. The Examiner asserts that Forsyth teaches a filtration unit having an intake port, an exhaust port, an active stage for filtering out particles above a predetermined size, the active stage including at least one agent (iodine resin) to kill ambient bacteria. The Examiner also notes that Forsyth further teaches absorbent media for removing toxic or harmful substances, and a solid active ingredient.

Applicant respectfully requests reconsideration of this anticipation rejection. Forsyth does not include a first passive stage for filtering out particles above a predetermined size sandwiched between an active stage containing one agent to kill ambient bacteria and viruses and a second passive stage for removing odors and

chemical hazard agents. The passive stage for filtering out particles of Forsyth is the first stage in the air filter. Accordingly, it is respectfully submitted that amended independent claim 11, and the claims depending therefrom, are not anticipated by Forsyth. Reconsideration and withdrawal of the rejection under §102(e) is respectfully requested.

### **THE §103(a) REJECTIONS**

Turning to the obviousness rejections, the Examiner has rejected claims 1, 3, and 4 under 35 U.S.C. §103(a) as obvious over Vandebelt taken together with Bilde. The Examiner asserts that Vandebelt discloses a hand held vacuum cleaner including a vacuum cleaner body having a handle and housing an electric motor powered by a battery, an intake, an exhaust, and a filtration system disposed therebetween including a passive HEPA filter to filter contaminated air. The Examiner admits that Vandebelt omits any discussion of an active stage (such as an agent effective to kill ambient biological contaminants). The Examiner contends that Bilde, a 1932 patent, discloses a portable vacuum cleaner including an active stage with an agent effective to kill ambient biological contaminant.

Combining these two references, the Examiner asserts that Vandebelt taken together with Bilde disclose all of the limitations of claims 3 and 4, other than the agents set forth in those claims. The Examiner attempts to fill this gap by arguing that such agents are well known, and that therefore it would have been obvious to provide a well known active agent in an otherwise conventional unit.

Applicant respectfully requests reconsideration of this obviousness rejection. First, as the Examiner concedes, Vandebelt lacks an active stage, or any suggestion

to employ one. The hoary patent of Bilde, in the passage referred to by the Examiner, notes that the "filter material may be treated with an air conditioning substance or may be used to mechanically separate undesired matter, such as bacteria, from the air stream" (col. 2, lines 23-26). This falls short of a suggestion to modify Vandebelt to include an active stage as set forth in the amended claims.

Applicant respectfully submits that Vandebelt and Bilde fail to render the claimed invention obvious. Vandebelt, at most, shows a passive filter for removing airborne particulates, while Bilde appears to show nothing more than an "air conditioning material" positioned within a passive filter. The references, however, do not suggest the claimed combination as set forth in the amended claims, nor do they provide any suggestions or other motivation for modification. Applicant submits, therefore, that the claimed combination of an active stage filter sandwiched between a first passive stage for filtering out particles above a defined size and a second passive stage for removing odors and hazardous chemicals is nonobvious in view of the cited references, and that the subject obvious rejection should be reconsidered and withdrawn.

Likewise, the Examiner has built upon the basic Vandebelt-Bilde framework by selecting features from other secondary references in an effort to demonstrate the obviousness of the claims dependent on claim 1. Thus, the Examiner relies on a UV source purportedly shown by Deibert to assert the obviousness of claims 2 and 10, a metallic filter in Sheldon for the obviousness of claims 5 and 6, an IR light source in Tribelski to argue the obviousness of claim 7, an electric or magnetic field generator as allegedly shown in Seifert for the obviousness of claims 8 and 9.

The foregoing combinations fall short of demonstrating obviousness because they suffer from the very shortcomings of the Vandenberg-Bilde combination. The additional elements selected from the secondary references, even when combined with the hypothetical structure built from the primary references does not amount to a *prima facie* case of obviousness. Accordingly, the rejections of the dependent claims must fail.

The Examiner has set forth a second set of obviousness rejections built around the combination of Deibert and Forsyth. The Examiner rejects claims 14 and 15 as unpatentable over Deibert or Forsyth. The Examiner asserts that Deibert and Forsyth teach all of the limitations of claims 3 and 4, but are silent as to the agent in the active stage. The Examiner submits that the agents listed in claim 15 are well known, and it would have been obvious to provide such an agent for disinfecting in either Deibert or Forsyth.

Applicant respectfully requests reconsideration of the rejection of claims 14 and 15 as amended. Deibert relates to an air filtration unit for a high volume ventilation system. Deibert has several discrete segments, not a passive stage sandwiched between an active stage including a microbical agent, and a second passive stage for removing odors and hazardous chemical agents. Forsyth does not, as discussed above, have a filtration unit similar to the claimed combination. Rather, Forsyth proposes a series of filter plates for an air purification system. Thus, neither Forsyth nor Deibert, whether taken singly or in combination, render the claimed combination obvious.

Similarly, the additional rejections based upon Deibert and Forsyth plus an additional reference fall short. As discussed above, neither Deibert nor Forsyth render

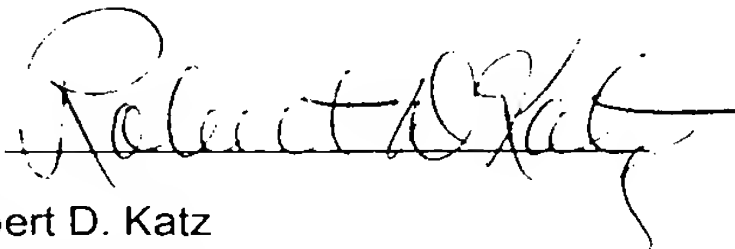
Applicant: Sheree H. Wen  
Serial No.: 10/044,381  
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the combination of claims 14 and 15 obvious. It is not seen, therefore, how the additional reference, added to reflect an additional element contained in the dependent claims obviates this defect. The same defect in the basic combination continues to exist despite the addition of another reference. Applicant submits, therefore, that the claims dependent on claims 14-15 (namely, claims 16-20) are nonobvious for at least the same reasons as claims 14 and 15. Applicant therefore requests that the subject rejection be reconsidered and withdrawn.

Pursuant to applicant's duty of disclosure, applicant wishes to call to the attention of the Examiner in charge of the above-identified application the references listed on the enclosed forms PTO/SB/08A. A copy of each reference is provided herewith. Applicant encloses the fee of \$180.00 for filing the Information Disclosure Statement herewith.

The Commissioner is hereby authorized to charge any fee required in connection with the filing of this Amendment to Deposit Account 03-3125.

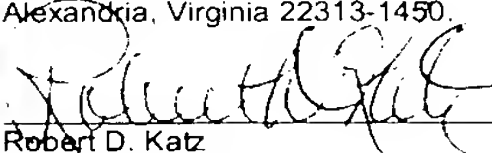
Respectfully submitted,

By: 

Robert D. Katz  
Reg. No. 30,141  
c/o Cooper & Dunham LLP  
1185 Avenue of the Americas  
New York, New York 10036  
(212) 278-0400

Attorney for Applicant

Dated: July 18, 2003

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to:	
Commissioner for Patents, P.O. Box 1450 Alexandria, Virginia 22313-1450.	
 Robert D. Katz Reg. No. 30, 141	Date 7/18/03

VERSION WITH MARKINGS TO SHOW CHANGES MADE  
IN THE CLAIMS

Please amend claims 1, 3, 6, 10-12, 14, 17, and 21 by rewriting same to read as follows.

--1. (Amended) A hand-held vacuum cleaner comprising:

a vacuum cleaner body having a handle, and housing an electric powered blower powered by a battery with a switch disposed between the battery and the blower;

an intake portion releasably connected to the vacuum cleaner body such that the intake stage forms an airtight seal with the vacuum body;

the vacuum cleaner having an intake opening, an exhaust portion, and

a filtration system disposed therebetween to filter contaminated air drawn through the intake opening, the filtration system including:

a first passive stage to filter out airborne particles above a predetermined size,  
[and]

an active stage including at least one agent effective to kill ambient biological contaminants, and

a second passive stage for removing odors and hazardous chemical agents,  
wherein the first passive stage is sandwiched between the active stage and the second  
passive stage to form an integral filter.

--3. (Amended) A hand-held vacuum cleaner in accordance with claim 1, wherein the agent in the active stage is clorohexdine, ethanol, lysostaphin, benzoic acid analog, lysine enzyme and metal salt, bacitracin, methicillin, cephalosporin, polymyxin,

cefaclor, Cefadroxil, cefamandole nafate, cefazolin, cefime, cefinetazole, cefonioid, cefoperazone, ceforanide, cefotanme, cefotaxime, cefotetan, cefoxitin, cefpodoxime proxetil, ceftaxidime, ceftizoxime, ceftriaxone, cefriaxone moxalactam, cefuroxime, cephalixin, cephalosporin C, cephalosporin C sodium salt, cephalothin, cephalothin sodium salt, cephapirin, cephradine, cefuroximeaxetil, dihydratecephalothin, moxalactam, or loracarbef mafate.

--6. (Amended) A vacuum cleaner in accordance with claim 5 wherein the metallic agent is silver, zinc, titanium, [and] or copper mesh.

--10. (Amended) A vacuum cleaner in accordance with claim 2, wherein the active ingredient [may be] is in the form of a particulate, a tablet, a tape, a mesh, a solid containing the active ingredient, or a fabric containing the active ingredient.

--11. (Amended) A filtration unit comprising:

[an active stage and] a first passive stage[, the passive stage] for filtering out particles above a predetermined size,

an active stage containing at least one agent to kill ambient bacteria and viruses, and

a second passive stage for removing odors and hazardous chemical agents,  
wherein the first passive stage is sandwiched between the active stage and the second  
passive stage to form an integral filter;

an intake port permitting contaminated air to enter into the filtration unit; and

an exhalation port through which decontaminated air may be expelled.



--12. (Amended) A filtration unit in accordance with claim 11, [additionally comprising adsorbent media for removing toxic or harmful substances and fluids from air which enters the filtration unit], wherein the second passive stage includes an activated charcoal agent.

--14. (Amended) A filtration unit in accordance with claim [1] 11, wherein the agent in the active stage is chlorhexidine, ethanol, lysostaphin, benzoic acid analog thereof, lysine enzyme, bacitracin, methicillin, cephalosporin, polymyxin, cefaclor, Cefadroxil, cefamandole nafate, cefazolin, cefixime, cefinetazole, cefonid, cefoperazone, ceforanide, cefotaxime, cefotetan, cefoxitin, cefpodoxime proxetil, ceftaxidime, ceftizoxime, ceftriaxone, ceftriaxone moxalactam, cefuroxime, cephalixin, cephalosporin C, cephalosporin C sodium salt, cephalothin, cephalothin sodium salt, cephalixin, cepharadine, cefuroximeaxetil, dihydratecephalothin, moxalactam, or loracarbef nafate.

--17. (Amended) A filtration unit in accordance with claim 16, wherein the metallic agent is in the form of a mesh and is silver, zinc, titanium, copper, or iron oxide[, in the form of a mesh].

--21. (Amended) A filtration unit in accordance with claim 13, wherein the active ingredient [may be] is in the form of a particulate, a tablet, a tape, a mesh, a solid containing the active ingredient, or a fabric containing the active ingredient.--